

ABSTRACT OF THE DISCLOSURE

The present invention provides an apparatus and a method for the synthesis of arrays of oligomers that have tight illumination intensity requirement. The apparatus and the method contains a mechanism to correct for illumination nonuniformity during the oligomer array synthesis process. To correct for illumination nonuniformity, the illumination intensity of different oligomer synthesis positions across an area in which oligomers are synthesized are determined first. Then, the difference in illumination intensity among the positions are evaluated mathematically. Next, any nonuniformity in illumination intensity is corrected by either reducing the intensity of the light for the brighter positions before the light reaches the illumination area or reducing the illumination time of the brighter positions during one protection group deprotection period.

QBMAD\324097.1